

REMARKS

The Office Action mailed June 9, 2005, has been reviewed and carefully considered.

Claims 9-25 have been amended. Claims 1-28 are pending in the application with claims 1-9 and 26 withdrawn.

Applicant thanks the Examiner for the indication that claims 10-11, 13-16, 18-19 and 21-24 would be allowable if rewritten to over come the rejection under 35 U.S.C. § 112, second paragraph, and to include the limitations of the independent claims and any intervening claims.

In paragraph 2 on page 2 of the Office Action, the drawings were objected to because of the text being too small.

Applicant respectfully traverses the objection to the drawings, but in the interest of expediting prosecution has included replacement drawings attached hereto to overcome the objection. The drawings have been modified to increase the font size. No other changes have been made.

In paragraphs 3-4 on page 3 of the Office Action, the title was objected to as being non-descriptive.

Applicant respectfully traverses the objection to the title, but in the interest of expediting prosecution has replaced the original title with a more descriptive title.

In paragraph 4 on page 3 of the Office Action, claims 9-25 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite.

Applicant respectfully traverses the rejection, but in the interest of expediting prosecution has amended the claims to clarify the invention. Applicant respectfully submit that the amendments do not affect the scope of the claims.

In paragraph 6 on page 3 of the Office Action, claims 9-25 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite.

Applicant respectfully traverses the rejection, but in the interest of expediting prosecution has amended the claims to clarify the invention. Applicant respectfully submit that the amendments do not affect the scope of the claims.

In paragraph 8 on page 3 of the Office Action, claims 9, 12, 17, 20 and 25 were rejected under 35 U.S.C. § 102(e) as being anticipated by Carey et al.

Applicant respectfully traverses the rejection, but in the interest of expediting prosecution has amended the claims to overcome the rejection.

The independent claims require a self-pinned ferromagnetic bias layer that extends beyond the ends of the free layer.

Carey et al. shows an antiferromagnetic hard bias exchange layer 226, for example, in Fig. 22. Fig. 2 also shows a pinned layer 208 that has its magnetic orientation set by antiferromagnetic layer 206. Alternatively, Carey et al. disclose that antiferromagnetic hard bias exchange layer 226 may instead be replaced with an antiferromagnetic layer 252 and pinned layer 250, which is pinned by the antiferromagnetic layer 252.

However, Carey et al. fails to show a self-pinned ferromagnetic bias layer that extends beyond the ends of the free layer.

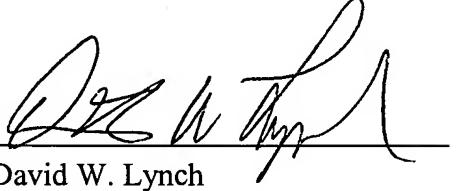
Accordingly, Applicant's invention, as recited in amended claims 9-25 are patentable over Carey et al.

On the basis of the above amendments and remarks, it is respectfully submitted that the claims are in immediate condition for allowance. Accordingly, reconsideration of this application and its allowance are requested.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Attorney for Applicant, David W. Lynch, at 423-757-0264.

Respectfully submitted,

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In the Drawings

Please replace the original drawings with the replacement drawings attached hereto. The drawings have been modified to increase the font size. No other changes have been made to the drawings.